

Hidden Heart Disease

Doctors Identify Early Signs Patients Are Heading for High Blood Pressure

By LAURA LANDRO

Scott Cote, a 41-year-old software engineer, lost weight, cut sodium and began exercising to control his blood pressure, all as a result of new attention being given to prehypertension. It's a precursor to hypertension, or high blood pressure. And it has its own risks of stroke and heart disease.

Mr. Cote, a participant in a study at Massachusetts General Hospital through his employer, EMC Corp., monitors his blood pressure at home and uploads the readings to a website, where a "virtual coach" gives him personalized tips, reminders and feedback to help him stay on track. His new lifestyle, which he adopted after his doctor gave him the prehypertension diagnosis in 2008, is a big change from his old sedentary habits.

About a third of U.S. adults have hypertension, which leads to one in six deaths in the U.S. But at least the same number, and possibly as many as 37%, are prehypertensive. Because prehypertension was only formally identified as a concern in 2003, doctors haven't reached consensus on treatment, and there is mounting debate about the best approach.

Some doctors are sticking by federal guidelines that recommend lifestyle changes such as Mr. Cote's. Others, especially when treating patients at the high end of the prehypertension range, are turning to drugs usually prescribed for high blood pressure, based on new evidence that they can prevent or delay progression to full-blown hypertension.

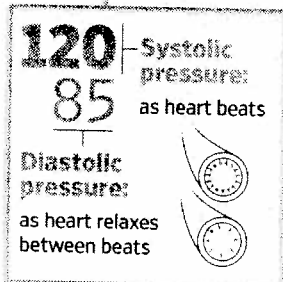
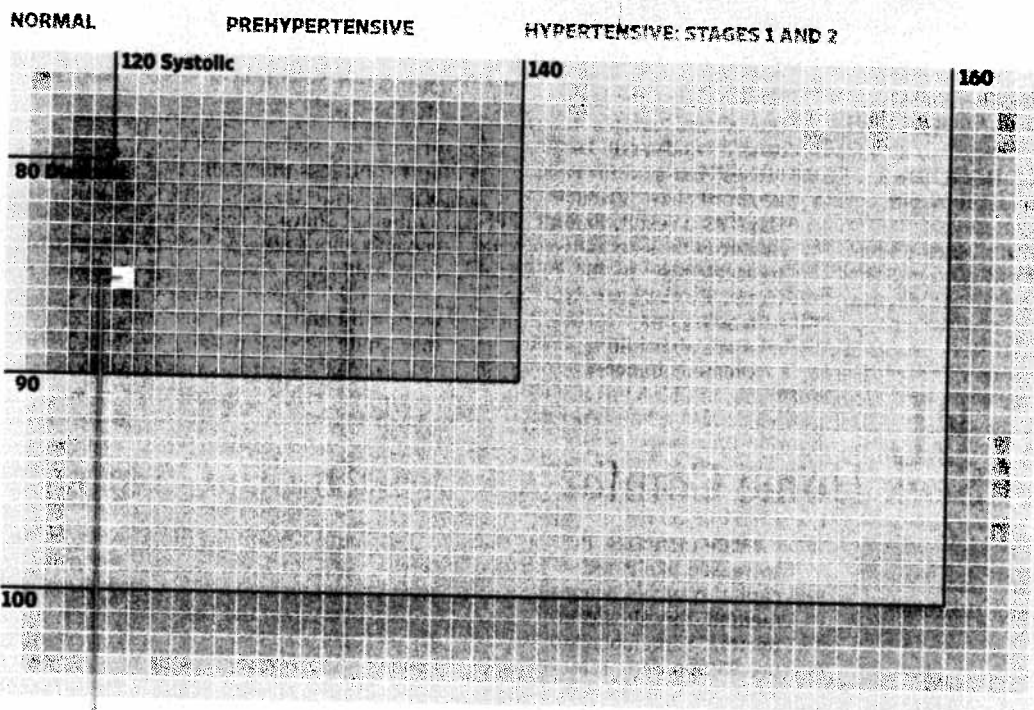
Lifestyle changes can make a big difference. Though the exact causes of rising blood pressure aren't clear, studies show a strong association with overweight, high salt intake, a sedentary lifestyle, smoking, caffeine and alcohol use. Stress and lack of sleep also appear to play a role. Men with prehypertension are 3.5 times more likely to suffer heart attacks than those with normal blood pressure; postmenopausal women with prehypertension have a 58% higher risk of cardiovascular death than those with normal blood pressure, one study has found.

High obesity rates are making prehypertension a concern for ever-younger patients. A study published in June found that in adolescents, elevated blood pressure that is still within the normal range can represent higher risk that the patient will develop hypertension in their 20s or 30s. Other studies indicate teens with prehypertension can progress to hypertension in as little as two years.

Because high blood pressure has no symptoms, "you can't feel blood pressure the way you would a headache or a sore knee," says Lawrence Fine, chief of the National Heart, Lung and Blood Institute's clinical applications and prevention branch. That makes it all the more important for patients to track their own status and consult with their doctors about factors that might put them at higher risk, such as tobacco use and family history. Dr. Fine recommends that patients ask to have their blood pressure taken whenever they come into contact with the health system, be it at a doctor's office, a dentist appointment or a workplace health fair.

Blood pressure, the force of blood against artery walls, is measured with

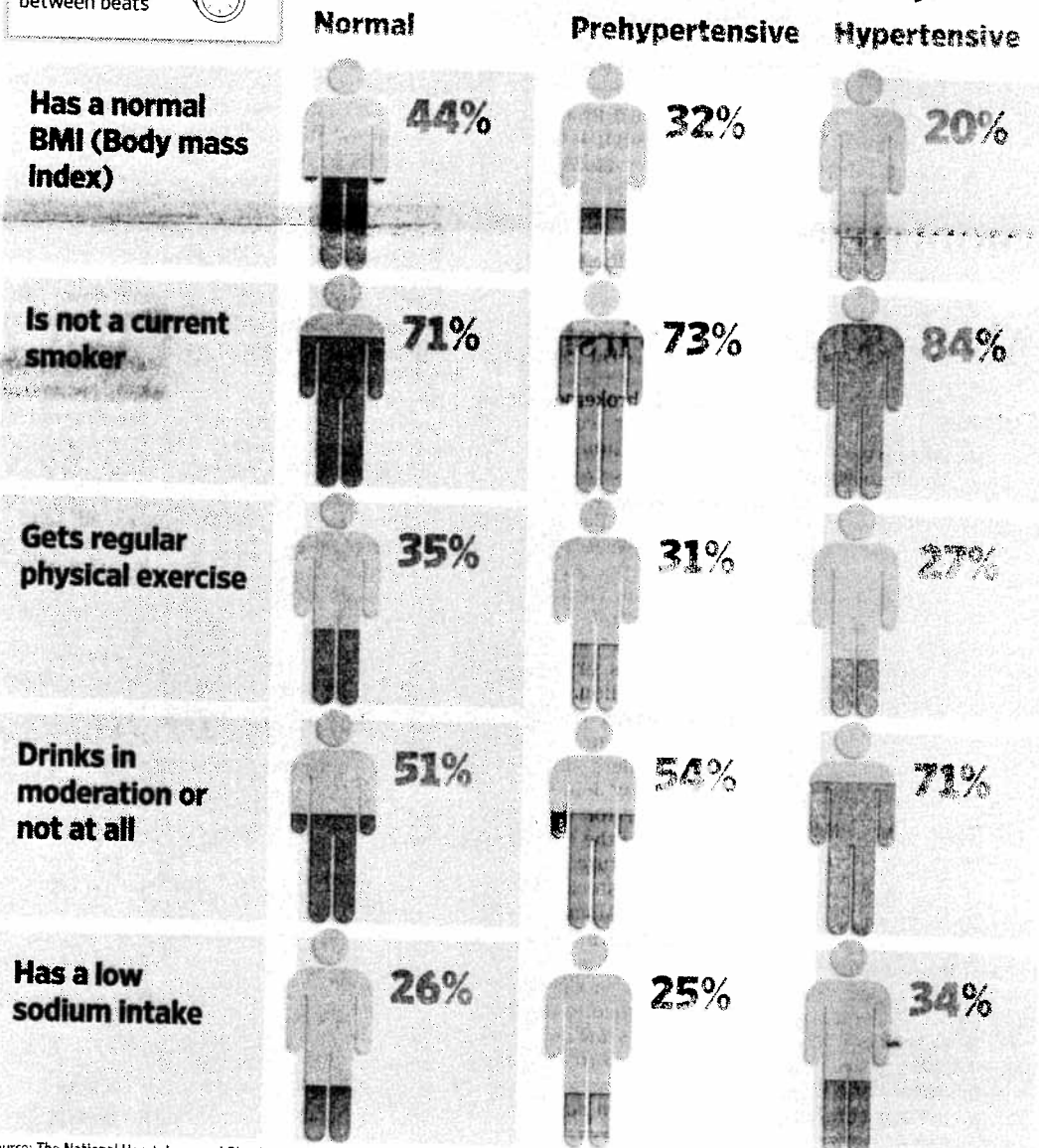
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Spot the Red Flags

In many cases, people with prehypertension don't follow as many healthy lifestyle habits as patients with full-blown hypertension.

Percentage in each group that practices each healthy habit



Source: The National Heart, Lung and Blood Institute/ Centers for Disease Control & Prevention

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two numbers (both expressed in millimeters of mercury, or mmHg)—at each heart beat, when pressure is highest, called systolic pressure, and between beats, when the heart is at rest, called diastolic pressure. Normal blood pressure is below 120/80. Readings from 120 to 139 systolic or 80 to 89 diastolic are considered prehypertensive. Those at 140/90 or above indicate hypertension. Doctors may prescribe as many as three drugs to control high blood pressure.

THE INFORMED PATIENT

In 2003, a federal panel, the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure, recommended only lifestyle modifications for most prehypertensive patients. But in 2006, a study conducted by researchers at the University of Michigan, known as Trophy (for Treatment of Prehypertension) and published in the *New England Journal of Medicine*, showed clear benefits to using medication to control blood pressure in prehypertensive patients. The National Heart, Lung and Blood Institute is conducting a review, due out next fall, on whether to update the federal recommendations.

Participants in the Trophy trial took either a drug (the angiotensin-receptor blocker called candesartan) or a placebo for two years; then all participants took a placebo for two more years. All were advised to make lifestyle changes. In the first two years, hypertension developed in 154 participants in the placebo group but in only 53 in the drug group, a relative risk reduction of 66%. After four years, the

relative risk reduction was 16%. Stevo Julius, professor emeritus at the University of Michigan Cardiovascular Center and the trial's lead researcher, says the results show that treating prehypertensive patients with drugs is feasible, but more research is necessary. George Bakris, director of the Hypertension Center at the University of Chicago School of Medicine, who served on the 2003 federal guidelines panel, says the trial demonstrates that "there's a drug with placebo-like side effects that will buy you time if you can't do it yourself."

Experts are sharply divided in the drugs-versus-lifestyle debate. Some doctors don't even like the term "prehypertension," let alone the idea of treating it with drugs. Anthony Viera, a family physician at the University of North Carolina at Chapel Hill, says he doesn't tell patients they have "prehypertension," instead counseling them on lifestyle modifications. A study he published in October in the *Journal of the American Board of Family Medicine* found there was no difference

Lifestyles of the Fit and Healthy

These modifications help prevent and manage hypertension.

- Maintain normal body weight (body mass index of 18.5 to 24.9).
- Consume a diet rich in fruits, vegetables and low-fat dairy products with a reduced content of saturated and total fat.
- Reduce dietary sodium intake to between 1,500 and 2,400 mg a day. The American Heart Association recommends less than 1,500 mg daily.
- Engage in aerobic physical activity such as brisk walking for at least 30 to 60 minutes a day, most days of the week.
- Limit alcohol consumption to no more than two drinks (e.g., 24 oz beer, 10 oz wine, or 3 oz 80-proof whiskey) a day for most men, and to no more than one drink a day for women and lighter-weight people.
- Avoid tobacco, reduce stress and cut back on caffeine.

Source: National Institutes of Health/National Heart, Lung, and Blood Institute

in reported changes in eating habits, salt reduction or exercise among 97 prehypertensive patients randomly assigned to either a group that was told, or wasn't told, of the diagnosis.

Laura Svetkey, director of the Hypertension Center at Duke University, agrees drugs shouldn't be prescribed for prehypertension. "There's no evidence that treating prehypertension with medication will do more good than harm or vice versa," she says. By contrast, another Duke researcher, Madan Kwatra, in a paper published in the journal *Blood Pressure* written with researchers at Wake Forest University last year, recommends drug therapy for everyone with prehypertension.

Americans spent close to \$25 billion in 2009 on hypertension medication. But Dr. Kwatra says the cost of treating prehypertension could be half that: It would take only one relatively inexpensive drug to treat most prehypertension patients, while many hypertension patients take multiple drugs. Decreased hospitalizations would offset costs, he

adds. Insurers generally go with the doctor's judgment. Aetna Inc., for example, doesn't limit use of anti-hypertensive drugs to only hypertension nor does it require pre-certification for prehypertension treatment.

Others say the reality is too many people can't change their habits. "We know that the population for the most part is going in the wrong direction on lifestyle," says Brent Egan, director of the hypertension initiative at the Medical University of South Carolina, which participated in the Trophy trial.

There may be benefits to treating patients on the upper end of the prehypertension scale with drugs, he says, especially if they have diabetes, kidney disease or other risk factors.

Yet some patients with healthy habits are diagnosed as prehypertensive. Graeme Sharrock, 57, a Chicago real estate investor, is a nonsmoking, nondrinking, athletic vegetarian. He learned in June that his systolic blood pressure had risen by more than 20% in a year, making him prehypertensive. He wasn't getting enough sleep, was under stress from the death of his father last year and was experiencing tightness in his upper neck that he thinks put pressure on his arteries. Now, he is seeing a chiropractor for his neck and trying to get more sleep. For now, Dr. Bakris has prescribed a low dose of a beta blocker, a hypertension drug. "I'm willing to try various things to get this under control," Mr. Sharrock says.

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